

TRANSLATION ORDERING SYSTEM

This invention relates to a method and system for ordering a translation via a communications network. In particular, it relates to a “one-click” ordering system for obtaining an “instant” translation of a web page, electronic mail or other electronic communication.

BACKGROUND TO THE INVENTION

The Internet is an international communications network that links computers all over the world. Individuals and businesses can access the Internet for exchange of information and conduct of business. New ways of utilizing the Internet are being launched virtually every day but most rely on exchange of information via established protocols and services such as electronic mail and the World Wide Web.

The World Wide Web (WWW or the Web) facilitates exchange of graphical and textual information by transmitting web pages from a server computer to a client computer. Each page, or part of a page, is typically stored in a file. Each file or collection of files is considered as a resource which can be located by a unique identifier known as a Universal Resource Locator (URL). When the URL is known the corresponding resource can be requested, located and displayed on the client computer using a protocol such as HyperText Transfer Protocol (HTTP).

The URL is also important for creating links between web pages. Web pages are generally written using HyperText Markup Language (HTML). HTML provides a standard set of commands and functions that define how a web page will display. A URL can be embedded in a web page as an active link to be followed by, for example, clicking on the link. By “clicking” is meant positioning a mouse pointer over the link and pressing one of the mouse buttons. Conventionally the left mouse button is pressed to

follow a link and the right mouse button (when available) is used to choose from a menu of options.

The Web and the Internet have become almost ubiquitous in world-wide availability. As a result, new modes of business and information exchange have developed. It is now possible to purchase a wide range of products via the Web. It is also possible to communicate almost instantly to almost anywhere in the world using the Internet.

The only substantial barrier to global trade is language difference. The problem of language has been addressed by web sites dedicated to providing electronic and/or human translations of electronic communications. A communication processing system that provides transparent translation of electronic communications is described in co-pending International application number PCT/AU00/00783, filed by the present applicant.

Apart from the system described in the co-pending application, there are numerous web sites dedicated to providing electronic translation. Universally, these web sites require a visit to the site and the making of an electronic request that defines the communication to be translated. Commercial sites often require the provision of billing information to authorize payment for the translation by the requestor. These translation services are not user friendly since a large number of keystrokes are required by a user before the desired translation can be obtained. Furthermore, the process is time consuming whereas recent trends in web applications demand rapid response. It would be preferable to avoid the need to leave the site you are on and go to the translation site. This acts as a major disincentive to a purchaser who seeks a product from a foreign language web page. Rather than complete all the steps necessary to obtain a translation of the web page, the potential purchaser will seek another web trader.

In order to overcome the language barrier a request for translation must be made as simple and expeditious as possible.

DISCLOSURE OF THE INVENTION

In one form, although it need not be the only or indeed the broadest form, the invention resides in a method of ordering a translation including the steps of:

- 5 displaying to a user a one-click translation component;
- said user clicking said one-click translation component to request translation of a selected communication;
- said one-click translation component requesting a translation of said selected communication by transmitting said selected communication, or an
- 10 indicator of said selected communication, to a translation manager;
- said translation manager obtaining a translation of said communication; and
- said translation manager directing transmission of said translation of said communication to said user.

- The method may further include the step of the user providing
- 15 translation parameters such as the target language.

- In a further form, the invention resides in a single-click translation ordering system comprising:
- a one-click translation component displayed in association with a communication;
 - 20 a translation manager in communication with said one-click translation component via a communication network, said translation manager obtaining a translation of a selected communication in response to a single action by a user to said one-click translation component, and directing transmission of said translation of said selected communication to the user.
- 25

BRIEF DESCRIPTION OF THE DRAWINGS

FIG 1 shows a schematic of a translation ordering system;

FIG 2 shows an example of a one-click explorer bar embodiment of a translation ordering component;

FIG 3 shows an example of a tool bar embodiment of a translation ordering component;

FIG 4 shows an example of a context menu embodiment of a translation ordering component;

5 FIG 5 shows a further example of a context menu embodiment of a translation ordering component;

FIG 6 shows other embodiments of translation ordering components;

FIG 7 shows a translation ordering component for HTML email;

FIG 8 shows another translation ordering component for HTML email;

10 FIG 9 shows a translation ordering component for text email;

FIG 10 shows an example of translation ordering component embodied for email translation; and

FIG 11 is a block diagram of one embodiment of a translation manager.

15 DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIG 1, there is shown a schematic of a translation ordering system. A customer 1 requests a web page 2 from a web server 3. The web server 3 sends the requested page 2 to the customer's Internet browser. The web page 2 is displayed by the browser and the customer 1
20 determines if a translation is required. If a translation is required it is requested with a single action, as described below. A number of different embodiments are described below for a one click component for performing the single action. Whatever the particular embodiment, the result is always similar.

25 Once the translation is requested by a single action, the web page, a selected part of the web page, the URL of the web page or other indicator is transferred 5 to a translation manager 4. It is not normally required to translate graphics so when transferring the data to be translated the graphics

may not usually be transferred. In this way bandwidth demands are not as great and the translation will be returned more quickly.

Bandwidth may also be reduced by recognizing that web pages consist of both static and dynamic content. For example, a news site will have static heading content but dynamic news content. The static content can be translated once and cached whereas the dynamic content must be translated each time a translation is requested.

Rather than transferring the web page, the URL or other indicator may be provided instead. In this case, the translation manager 4 will retrieve the original web page 6 from the web server 3. The translation manager may also obtain the original web page (or communication) or a translation of the original web page (or communication) from a storage system 8, such as a cache.

From time to time the content of the cache may require refreshing and/or retranslation. The translation manager may determine when refreshing and/or retranslation is required based upon heuristics and algorithms that analyse the use of the content stored in the cache. Different content may require updating at different times and different rates.

The translation manager 4 processes the request by translating the text (and possibly sound, video, graphics, animations, etc.) and optionally adding further information. The translated web page 7 is transferred to the customer's browser and displayed in the requested language. The translation manager may also replace all links in the translated web page 7 with links that point to the translation manager 4. This enables the customer to surf an entire web site, or indeed many websites because often the links on a page are to other websites, without the need to separately request translation of each page. Once translation of one page is requested, linked pages may be automatically translated (either when the link is clicked or in advance) in anticipation of the customer's needs.

The single action to request a translation can be embodied in a number of ways. One example is shown in FIG 2. FIG 2 shows a screen shot

of a web page 10 in English. At the bottom of the screen is an explorer bar
11 that implements a one-click translation component. The one-click
component indicates that the page is to be translated from the current
language, in this case English, to another language, which in this example is
5 German. The user needs only direct a mouse pointer to the "GO" button and
click once or select another language from the list, for the translation to be
delivered by the translation manager.

The explorer bar may always be present in the browser window but
may also be invisible until the user activates the translator plug-in button 12
10 on the tool bar. The button 12 may also be used to activate the one-click
translation facility in any of the ways described later.

It will be noted that the 'from language' and 'to language' are
contained in pull-down lists. This allows the user to select different
translation options. Various other options can be selected with the "Edit
15 Options" link 13. These options might include an area of speciality e.g.
medical for medical web pages, a specific dictionary, glossary, a specific
translator (machine or human) to be used, the level of confidentiality
required, the level of quality of the translation required, whether to edit or
proof read, a time frame when the translation is required in the case of
20 human translation, etc.

The amount of user interaction that is required will diminish through
use. Once the options are set up there is only a requirement to click the one-
click component to initiate the translation. It is anticipated that 'smart' icons
will be employed that 'learn' user preferences through use thus further
25 diminishing any need for user interaction other than through the one-click
component.

Payment for the translation may be effected in one of many ways
including:

- (a) The owner of the web page may pay for all translations;
- 30 (b) The owner of the web page may pay a fee to be able to place the web
translation component on that web page or part thereof.

(c) An advertiser may pay a fee to a web site owner to include the web translation component with the paid advertisement. The website owner may then pay this fee, or a part thereof, to the translation service that provides the translation component;

5 (d) The user may pay for the translation; or

(e) It may be free and supported by advertising and sponsorship.

If (d) applies, it will be necessary for the user to set up account details before the translation can be made. In the example shown in FIG2,

(d) applies and the user will set up account details using the "Setup
10 Account" link 14. To set up an account the client would be required to provided a variety of information which could include, but is not limited to:

- Name;
- Address;
- Phone Number;
- 15 • Fax number;
- Email Address;
- Preferred Password;
- Security information that can be used to identify the user in case they forget their password;
- 20 • Preferred payment method e.g. credit card, purchase order, bank transfer, etc;
- Demographic information;
- Information about the types of things that get translated e.g. medical industry, email, research reports etc;
- 25 • Preferences regarding the nature of the translation e.g. formal, informal, business, etc;
- Preferred quality level;
- The level of editing and/or proof reading required;
- Language pairs for which translation is required and the email address
30 where each translation should be sent;
- Preferred turnaround times;

- Confidentiality Level;
- Do not translate (DNT) lists;
- Customer specific dictionaries (CSD);
- Glossaries to be used.

5 If (a) (b), (c) or (e) applies there is no action required by the customer other than to click once on the one-click translation component.

 The explorer bar 11 is implemented as an Internet browser plug-in and therefore integrates with the users browser, such as Microsoft's Internet Explorer® or Netscape's Navigator®. Compared to prior art solutions, the
10 explorer bar 11 has the unique ability to communicate with the web browser to gain access to the required details of the current web page. It can also allow saving options and preferences on the customer's local computer as well as supporting the translation of web pages or text selections by just one mouse click.

15 Prior art solutions require multiple mouse clicks to achieve the same result. Most often the customer is merely transferred to a common web page that is used for copy and paste translations at the translators web site. The language then has to be selected and the translation process started manually through the customer's interaction. The prior art approach requires an
20 unacceptable number of actions by the user as well as time delays while waiting for web pages to load.

 The translation manager 4 may store translation programs for effecting automatic translation of the identified web page. Alternatively, the translation manager may simply manage the process by transmitting the web
25 page to another translation site. In this case the translated communication may be returned to the translation manager for transmission to the user or alternatively the translation manager may append routing information to the communication that directs the transmission of the translated communication to the user.

30 The translation manager may also obtain a translation of the original web page (or communication) from the storage system 8.

In some cases, a suitable translation engine will not be available and it will be necessary for the document to be translated by a human. This requirement will be notified to the customer by the translation manager and the translation process initiated or delayed until approved by the customer.

- 5 The translation manager appends identifying data to the transmission in order to correctly return and display the translated material. The identifying data may include a job number that uniquely addresses a specific translation job.

- The explorer bar 11 is only one embodiment of the one-click translation component. The content of the explorer bar 11 may be embodied as menu items in the customers' browser. For example, the tools menu of Microsoft's Internet Explorer® may include a menu item as shown in FIG 3 which allows selection of "Translate this page", or if text has been selected, "Translate selected text". The one-click translation component may also be
- 15 a context menu as shown in FIG 4, activated by clicking the right mouse button to translate the page. If text has been selected the context menu will give the option to "Translate selection", as shown in FIG 5. Such components will be known to persons skilled in the art of programming for web pages.

- 20 Other embodiments, in the form of pull down lists, buttons and bars are shown in FIG 6. The webmaster (person responsible for construction and management of the web page) can include pre-built HTML and JavaScript code into their web pages to instantaneously enable a one-click translation component.

- 25 The banners and buttons of FIG 6 are automated to provide a one-click component for requesting translation, ie. all the customer has to do to translate the current web page, email, or other form of electronic communication is select the target language. Because the encoding of the web page and the source language are already known and preset when the
- 30 webmaster includes the one-click translation component, it is sufficient at this stage just to choose the target language. The translated page may still

contain the one-click translation component, so another selection of a target language will invoke the process again.

Another embodiment could be a hypertext link that includes an indicator of the web page or other communication to be translated and an indicator of the language to be used for the translation. A web page could include a different hypertext link for each language and the user simply clicks on the appropriate link to initiate translation of the page into the desired language. This embodiment is particularly useful for other forms of communication, such as text based email which do not support the full functionality of web pages but do support hypertext links.

Examples of a translation component embedded in the body of an HTML email are shown in FIG 7 and FIG 8. FIG 7 shows an object that incorporates the pull down menu object discussed earlier. FIG 8 shows an alternative where the available translation options are listed in an object. FIG 9 shows an embodiment in which translation links are placed in the body of a text email.

The one-click translation components may operate in a number of ways depending on the location of the email. If the email is stored on the local machine the one-click component operates to transmit the email to the translation manager. If the email is left on the server of the ISP, the one-click component may transmit an indicator of the email, such as a file location. Another possibility is that the email is stored on a server on a LAN, in which case either approach may be possible.

Yet another possibility is the email sender sends the content of the email (which may consist of several parts) with unique identifiers to the translation manager before or when the email is sent. When the recipient opens the email and requests translations, the unique identifier/s are transmitted to the translation manager which obtains the translation and transmits it to the user.

As commercial emailers and Customer Relationship Management programs become more sophisticated in the way they personalize outbound

email, the translation manager may utilize a document assembly algorithm to assemble the translated parts so that the appearance and layout of the translation is closer to that of the original.

The document assembly algorithm works to assemble documents
5 from a database of text or graphics based upon parameters gleaned about the recipient. For example, a bulk emailer may assemble tailored email messages based upon demographics of the recipient. Each email may contain ten elements from a store of a hundred elements. The translation manager may cache translations of the hundred elements and then assemble
10 these into a desired email according to the instructions from the document assembly algorithm.

As mentioned above, and as will be appreciated by persons skilled in the use and programming of web pages and/or software, the described functions can be provided by plug-in applications or stand alone programs
15 that interact either actively or passively with the viewed web pages (or data containers in software applications e.g. fields, memo fields, Blobs, documents, workbooks, windows, dialog boxes, record, etc.) and communicate with the translation manager via the Internet to request translation in response to a keystroke, mouse action, voice command, or
20 other method by the customer.

As previously described, the one-click translation component is not restricted to operating in a web environment. For example it may also be embodied as an add-in for translation of electronic mail, as shown in FIG 10. The tool 15 appears on the tool bar of the email client e.g. Microsoft
25 Outlook or Eudora. With a single action, such as the click of a mouse button, a customer may send a message to the translation manager 4 for translation and optionally forwarding to the intended recipient or returning to the requestor. In this embodiment, the customer may save default account information as previously discussed.

30 The invention can be applied to virtually any software. In one embodiment, the inventor envisages that an icon (button) could be provided

in one corner of the computer screen and operate directly within the operating system shell. When the item is clicked the active control or active window is sent to the translation manager for translation.

In another example an icon could be added to the tool bar of applications that commonly deal with documents like WINZIP. So when
5 unzipping a file it is translated automatically with one click.

Another application applies to computer classifieds. Users could pay a small additional amount to have a translation component associated with the classified to encourage foreign language viewers to consider the
10 classified.

In an extension of the one-click translation ordering system, the translation manager 4 maintains a database of statistical information about the requested translations. The statistical information is accessible by webmasters (and/or other approved parties) of web pages that have been
15 translated in a similar way to how page visit information is currently available using cgi-bin. This statistical information provides hard data to the web site owner about which parts of their website should be translated and into which languages.

For example, if a travel website has a section on Port Douglas
20 holidays that receives requests for translations into Japanese over a hundred times a day, it would be a clear indication to the website owner to have that part of their website professionally translated into Japanese. It may also affect the sites product mix. Based on this statistical data the website owner might include more Port Douglas destinations with Japanese speaking staff,
25 menus, etc. than they had before.

The key benefit of this aspect of the invention is that it helps the website owner to make better business decisions based upon the actual language preferences of visitors to their website.

Another use for this statistical data is as a marketing tool. The
30 statistical data can be used by a website localization business to convince a potential client to have their website localized into say Japanese. The data

may also highlight other languages the website should be localized into thus helping to gain more business.

Yet another use of the statistical information is to determine the language preference of a user, so that it is possible to communicate in the users preferred language, irrespective of the source language. It has been found that people are three to four times more likely to initiate a purchase when communicated with in their native tongue. The ability to communicate with a potential customer in their preferred language can translate to a substantial increase in sales.

The statistical information could be used in a bureau service wherein a commercial or bulk email provides a list of email addresses for intended recipients. The addresses would be run against a database of user preferences and the recipients preferred language provided for each email. A customized translation component could then be included in the email and/or the message translated into the preferred language. The bureau would be able to charge a fee for this service.

The inventor perceives that the invention can be extended in this (and other) applications, to provide currency translations. The translation manager 4 may access current or historical currency exchange rates to convert fees and charges to a currency suitable for the user. For example, if a communication were being converted to Chinese all currency references would be converted to yen and the cost of the translation could be billed in yen, or any other suitable currency.

The one-click translation ordering system can form a key component of revenue sharing programs such as those commonly known on the internet as affiliate or associate programs. Under these programs, the site (and this can be extended to software packages on computers that are connected to the internet at least occasionally) offering the service or product for sale pays an amount of money to other sites who advertise or promote their service or product. This amount of money is calculated on a per impression basis (an amount for each time an advertisement such as a button, banner, or

text description is displayed), a per click basis (an amount for each time someone clicks on the advertisement to visit the site offering the product or service), a per lead basis (an amount for each time a visitor clicks on an advertisement and fills out say an inquiry form), or a per sale basis (an amount for each time the visitor clicks on an advertisement and actually buys something from the site offering the product or service – this could be a fixed amount or a variable amount such as a percentage). These programs can be multi-tier i.e. each participant may get a share of the revenue derived from people they refer to join the affiliate program. They can be set up to only pay on sales generated on that particular visit, or for a fixed period after that visit, say 90 days, or for life.

A person skilled in the art would be aware of the myriad of ways these revenue sharing schemes can be set up. There are many variations in terms of how the revenue shared is calculated; what advertisements are available; what medium you can advertise on e.g. web pages, emails, newsletters, brochures, newsgroups, software, signature files, etc.; and many other attributes of the program.

The one-click translation ordering system when integrated with such a revenue sharing program has several advantages over competing offers in terms of the value it adds to the website in addition to the revenue sharing opportunities. The added value includes the statistical data that helps the web site owner determine which parts of the website should be localized into which languages based on actual demand from users. Research has found that a visitor is three to four times more likely to buy something from a site in their native language versus a non-native language, so the value added includes the increased sales that are likely to be generated by the site.

The one-click translation ordering system returns additional value to the owners of web pages that elect to embed a one-click translation component on their web page. Members of the affiliate program receive a commission statement indicating the number of translations made as well as recommendations on which pages should be permanently translated and into

which languages. The inventor envisages that this facility can greatly enhance the effectiveness of web based marketing by the affiliate member.

The affiliate member may also receive a commission on translations paid for by their customers. This information is tracked by the translation
5 manager 4.

One possible embodiment of the functional components of the translation manager 4 is shown in FIG 11. As mentioned above, the translation manager 4 may include translation engines 20 for performing the required translations. A database 21 of available translation servers may also
10 be maintained and the translation manager 4 will direct requested translations to the appropriate server. It is also necessary for the translation manager 4 to maintain a customer database 22 for accounting purposes. Statistics on translations performed are maintained in another database 23 for internal management and affiliate program purposes. The translation
15 manager 4 also includes an auto-responder 24 for sending messages to the customer and to webmasters of affiliate web page owners.

Throughout this specification the aim has been to describe the preferred embodiments of the invention without limiting the invention to any one embodiment or specific collection of features.

20

CLAIMS

1. A method of ordering a translation including the steps of:
displaying to a user a one-click translation component;
said user clicking said one-click translation component to request translation
5 of a selected communication;
said one-click translation component requesting a translation of said
selected communication by transmitting said selected communication, or an
indicator of said selected communication, to a translation manager;
said translation manager obtaining a translation of said communication; and
10 said translation manager directing transmission of said translation of said
communication to said user.
2. The method of claim 1 further including the step of said user
providing translation parameters.
3. The method of claim 2 wherein said translation parameters include a
15 target language.
4. The method of claim 1 wherein the step of transmitting involves
transmitting one of: a URL of a web page; a selected part or parts of a web
page; the web page; or parts of the web page.
5. The method of claim 1 wherein clicking said one-click translation
20 component transmits one of: an email; a part or parts of an email; a location
of an email or a part or parts of an email; an identifier or identifiers of an
email or a part or parts of an email.
6. The method of claim 1 wherein clicking said one-click translation
component transmits one of: an electronic communication; a part or parts of
25 an electronic communication; a location of an electronic communication or
a part or parts of an electronic communication; an identifier or identifiers of
an electronic communication or a part or parts of an electronic
communication.

7. The method of claim 4, 5 or 6 further including the step of said translation manager assembling said parts into said web page, email or electronic communication according to an assembly algorithm.
8. The method of claim 1 further including the step of said translation
5 manager appending further information to said translation.
9. The method of claim 8 wherein said further information is identifying information for correctly returning said translation to said user.
10. The method of claim 1 further including the step of the translation manager replacing links in the selected communication.
- 10 11. The method of claim 1 further including the step of the translation manager translating communications linked to the selected translation.
12. The method of claim 1 further including the step of the translation manager translating currency amounts to equivalent amounts in a user currency.
- 15 13. The method of claim 1 further including the step of compiling statistical information about said translation manager.
14. The method of claim 1 further including the step of said translation manager maintaining user information.
15. The method of claim 1 further including the step of effecting
20 payment for said translation.
16. The method of claim 15 wherein payment for said translation is effected by an originator of said communication paying a fee for displaying said one-click translation component.
17. The method of claim 15 wherein payment for said translation is
25 effected by an originator of said communication selling advertising space to an advertiser for a fee and paying said fee, or part of said fee, for displaying said one-click translation component.
18. The method of claim 1 further including the step of caching translation of content of said selected communication or parts thereof.

19. The method of claim 18 further including the step of determining how frequently translated content stored in said cache should be refreshed and retranslated, said step of determining using heuristics and algorithms.
20. A single-click translation ordering system comprising:
- 5 a one-click translation component displayed in association with a communication;
- a communication network; and
- a translation manager in communication with said one-click translation component via said communication network;
- 10 said translation manager obtaining a translation of said communication in response to a single action by a user to said one-click translation component, and directing transmission of said translation of said communication to said user.
21. The system of claim 20 wherein said one-click translation
- 15 component is selected from a list including: an explorer bar, a pull-down menu, context menu, or a button.
22. The system of claim 20 wherein said one-click translation component comprises an add-in application for an electronic mail program.
23. The system of claim 20 wherein said one-click translation
- 20 component comprises an application operating within an operating system for translating communications within the operating system.
24. The system of claim 20 further comprising means for said user to input translation parameters.
25. The system of claim 20 wherein said translation manager includes
- 25 means for effecting automatic translation of said communication.
26. The system of claim 20 further comprising means for compiling statistical information about said system.
27. The system of claim 20 further comprising means for translating currency amounts to equivalent amounts in a user currency.

28. The system of claim 20 further comprising means for maintaining user information.

29. A translation manager for a one-click translation system, said translation manager comprising:

5 means for receiving a selected communication in response to a one-click translation component;

one or more translation engines translating said selected communication according to parameters; and

means for returning a translation of said selected communication.

10 30. The translation manager of claim 29 further comprising means for compiling translation statistics.

31. The translation manager of claim 29 further comprising means for maintaining user information.

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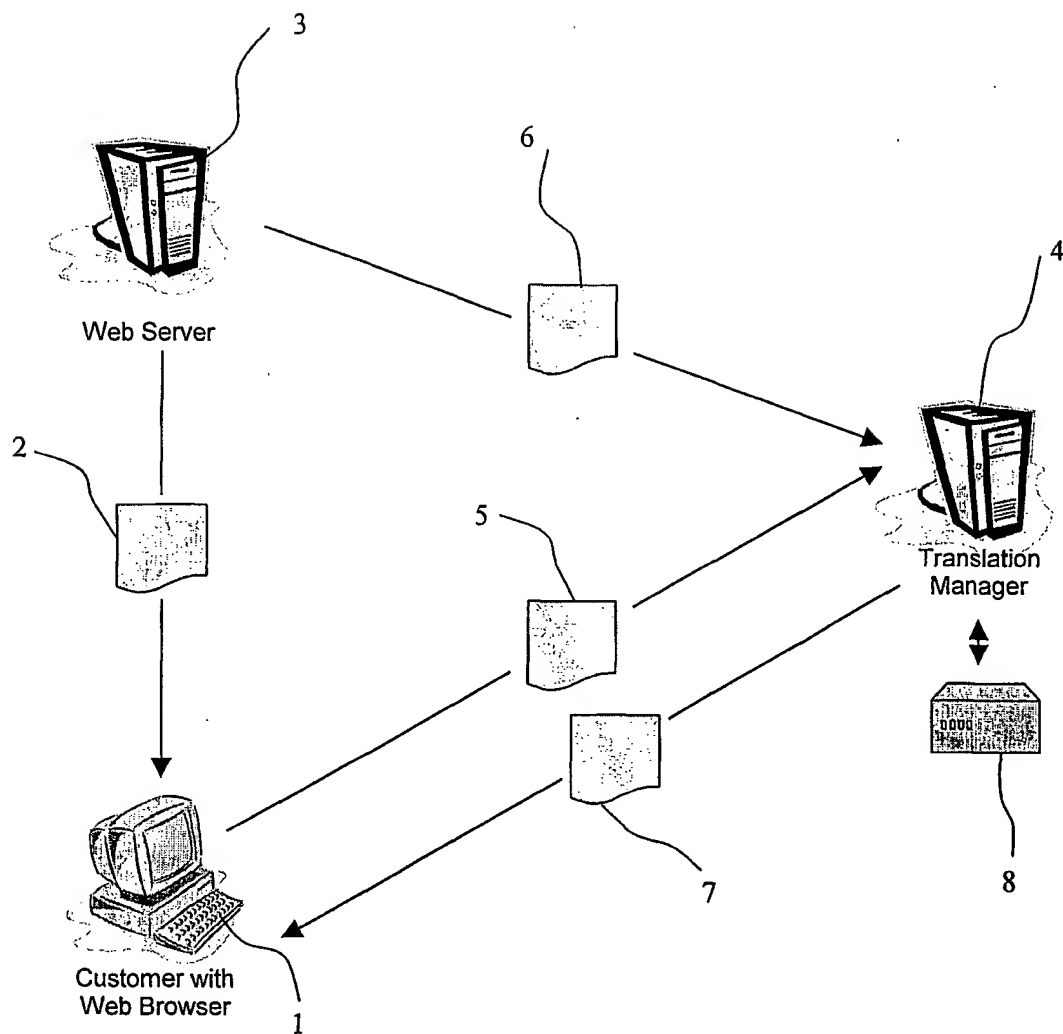


FIG 1

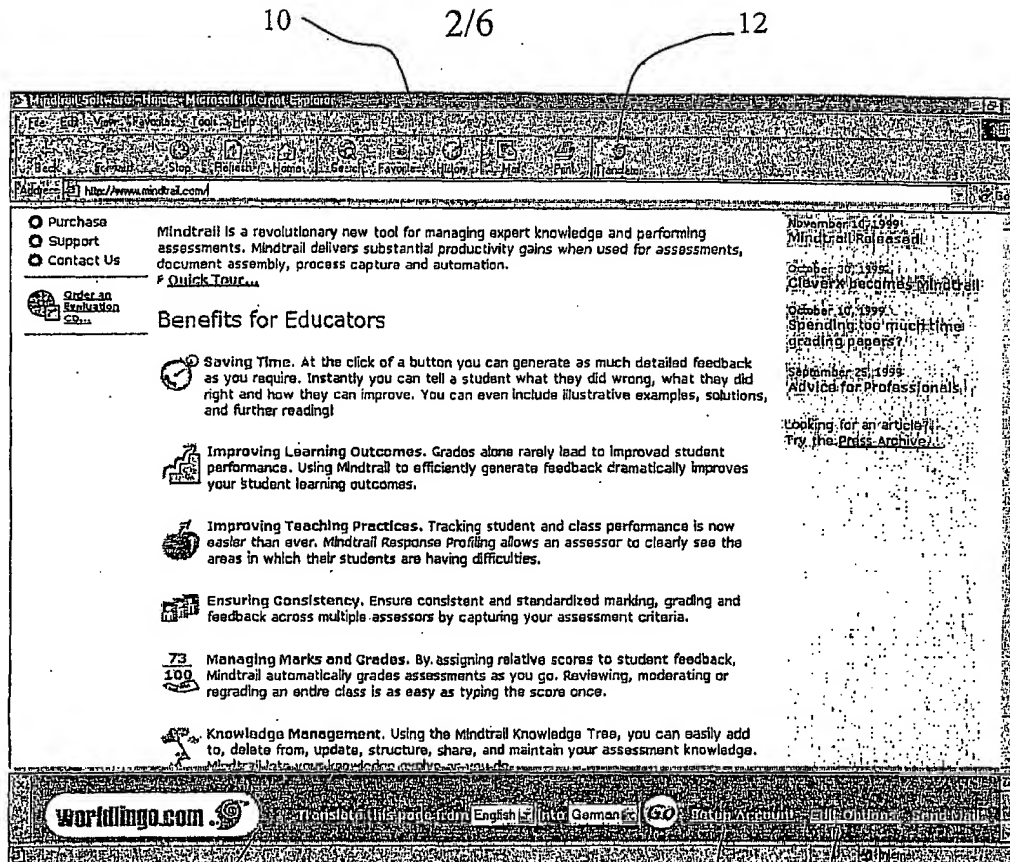


FIG 2

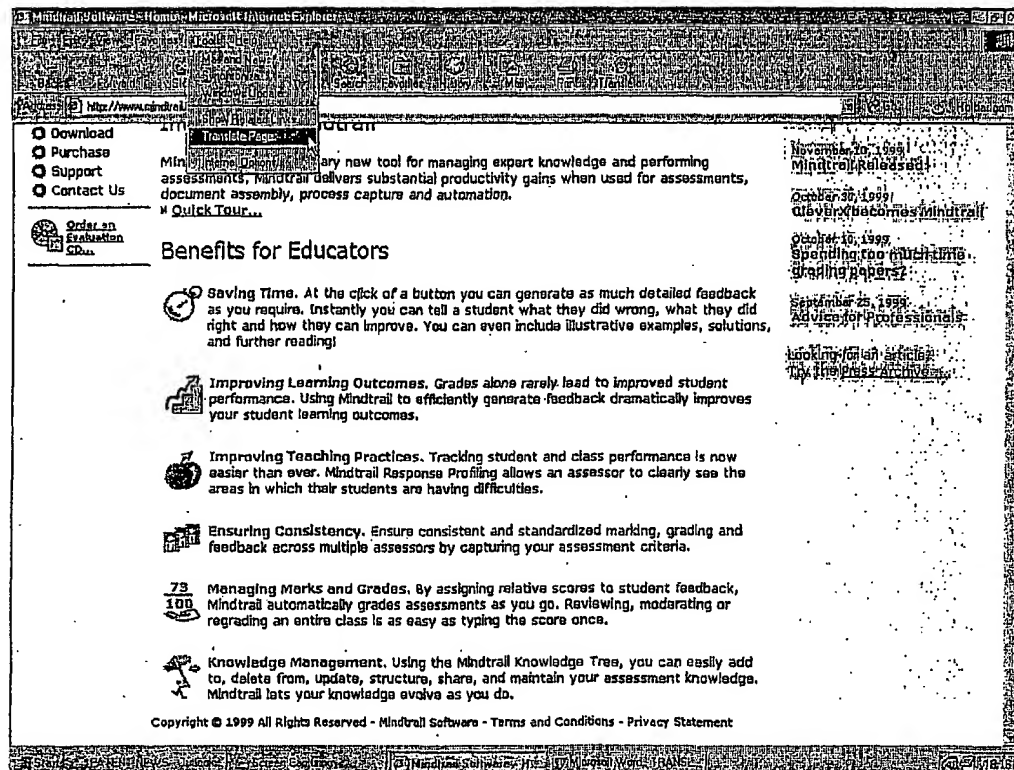


FIG 3

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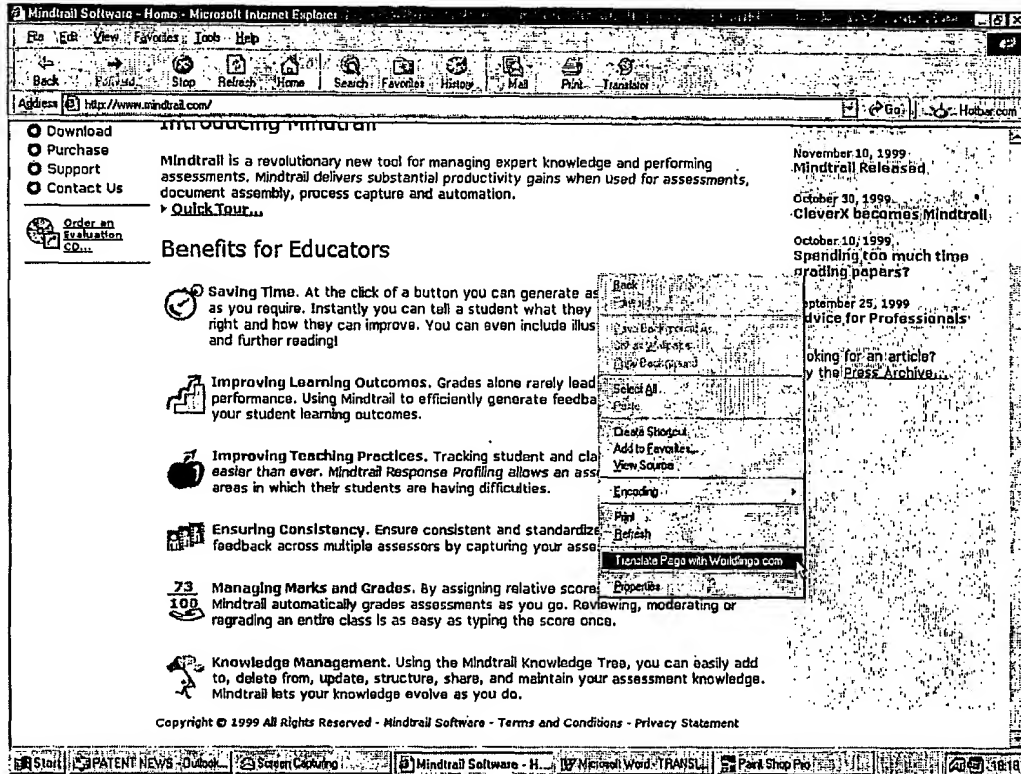


FIG 4

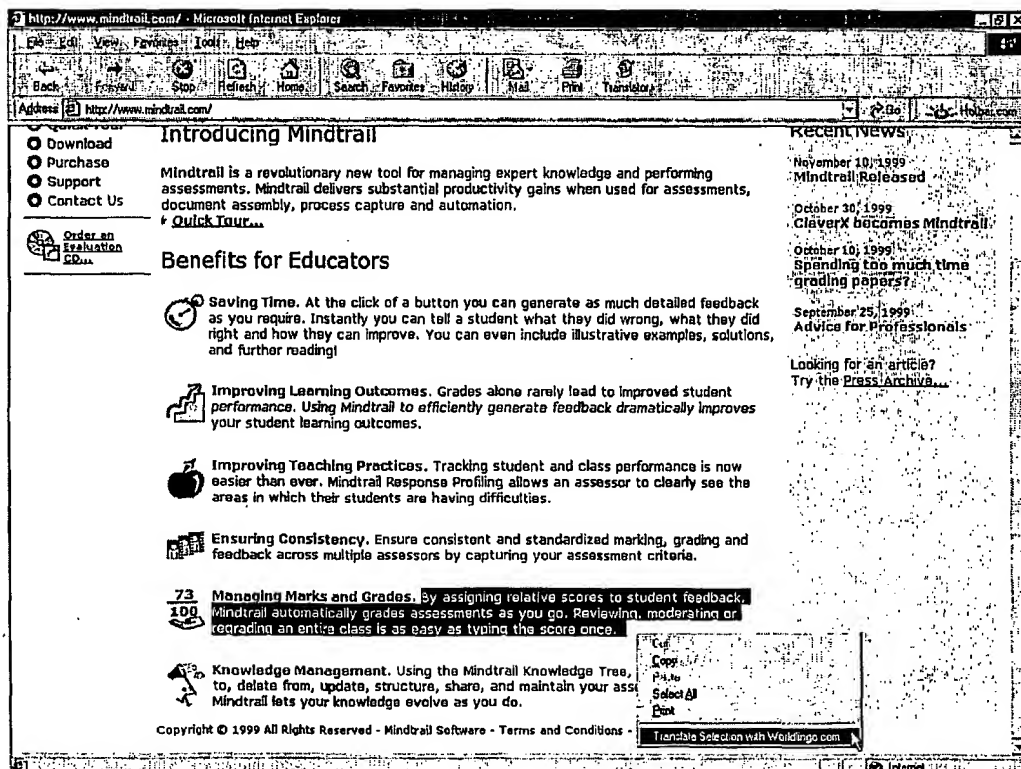


FIG 5

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FIG 6

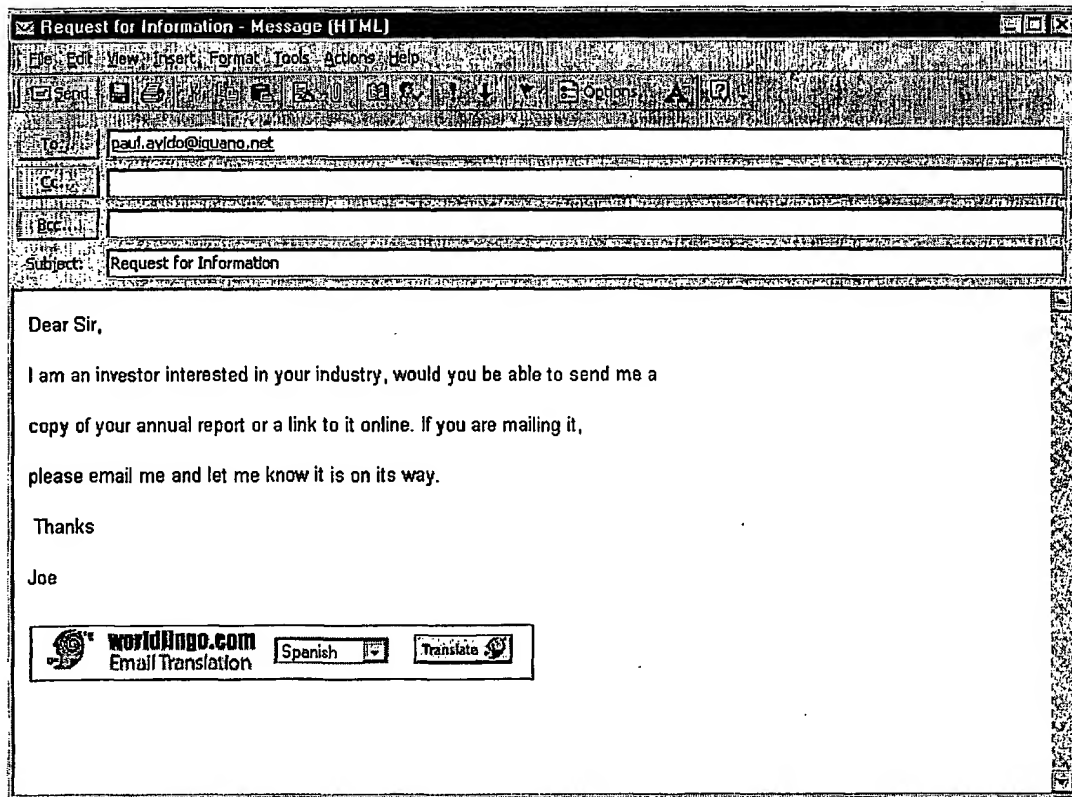


FIG 7

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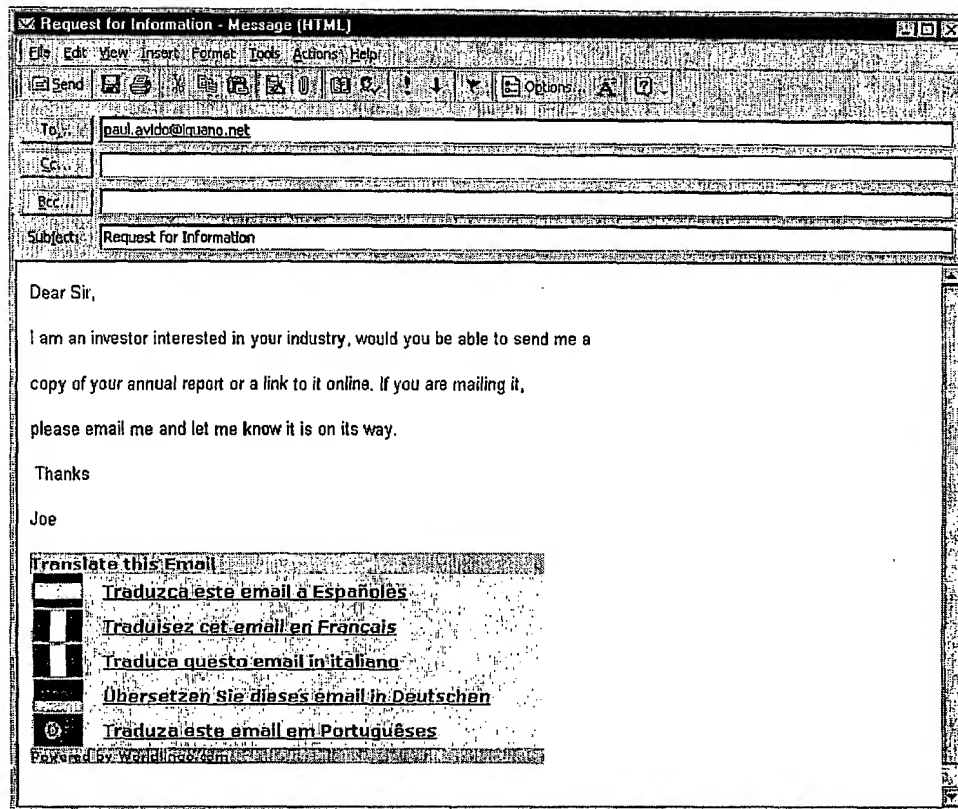


FIG 8

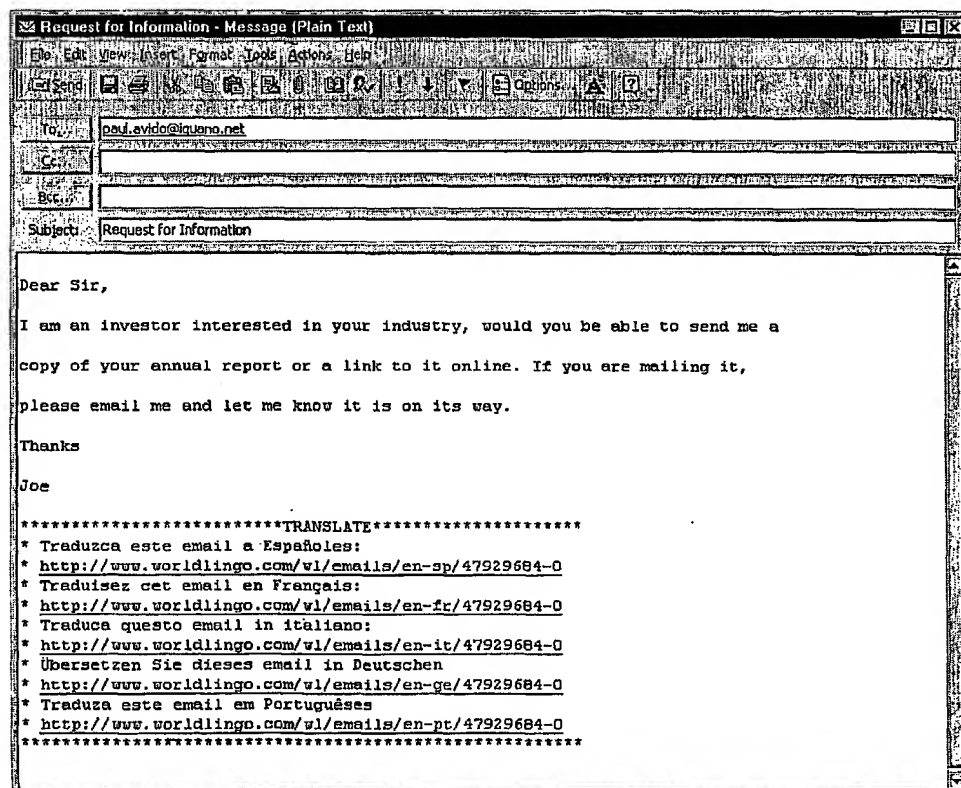


FIG 9

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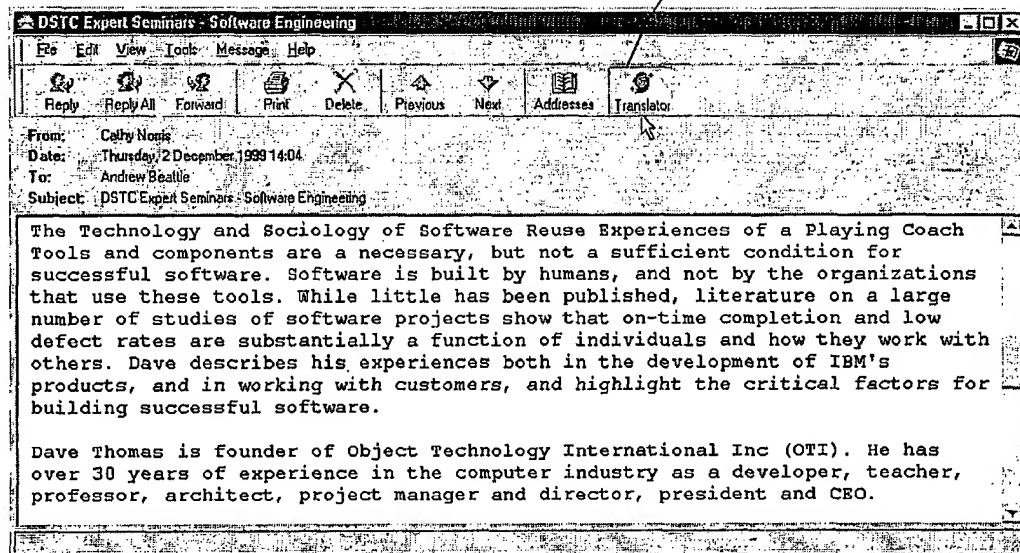


FIG 10

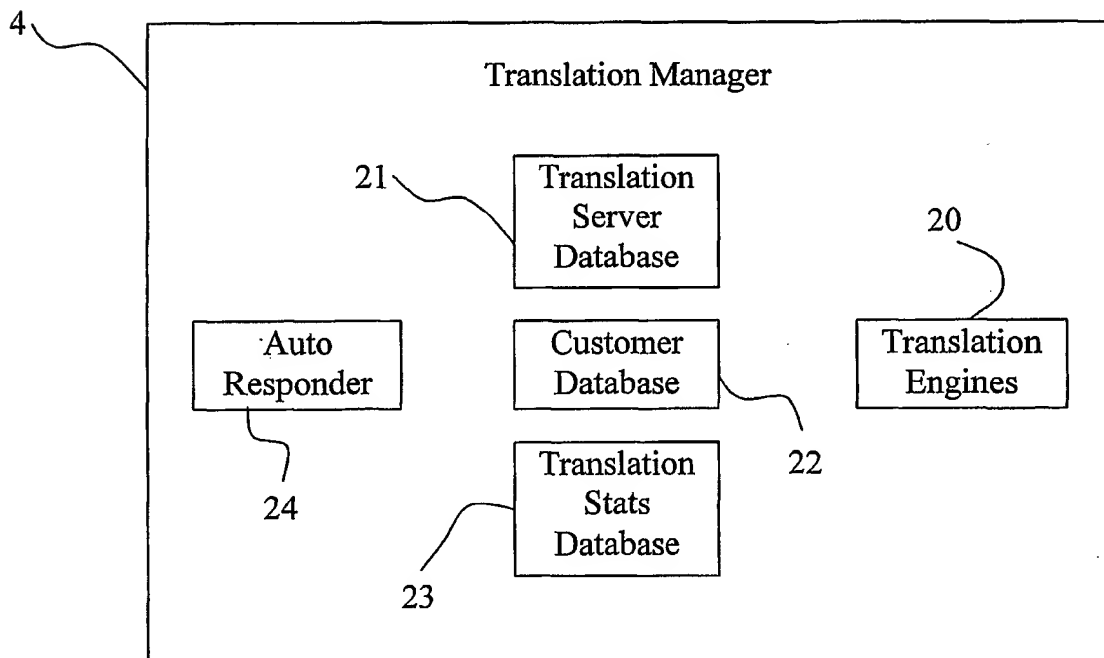


FIG 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU01/00084

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: G06F 17/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPAT KEYWORDS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Derwent Abstract Accession No. 2000-004258/01, class P85,T01, JP 11-282848 (KATO Y) 15 October 1999 - see whole document	1-31
A	WO, A,97/18516 (COMPUSERVE INCORPORATED) 22 May 1997 See whole document	
A	Derwent Abstract Accession No. 98-450353/39, class W01, JP 10-187728 (MATSUSHITA DENKI SANGYO KK) 21 July 1998 see whole document	
A	Derwent Abstract Accession No. 1999-513842/43, class T01, JP 11-224252 (MATSUSHITA DENKI SANGYO KK) 17 August 1999 - see whole document	

☐

Further documents are listed in the continuation of Box C

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See patent family annex

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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Date of the actual completion of the international search

16 March 2001

Date of mailing of the international search report

22 March 2001

Name and mailing address of the ISA/AU

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/AU01/00084

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
JP	11282848						
WO	9718516	AU	14061/97	CA	2216387	EP	829053
JP	10187728						
JP	11224252						
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